

ViRVIG: Research Center for Visualization, Virtual Reality and Graphics Interaction

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Abstract

ViRVIG is a joint Research Center involving both UdG and UPC. Its main objective is to generate knowledge and produce scientific research results in Virtual Reality, Visualisation and Advanced Interactive Graphics Systems.

1. Scientific Introduction

ViRVIG is a joint Research Center involving two Catalanian Universities: UdG and UPC. The main objective of ViRVIG is to generate knowledge and produce scientific research results in Virtual Reality, Visualisation and Advanced Interactive Graphics Systems, with a focus on training new research scientists at doctoral level in these areas and on maintaining a strong level of international research cooperation and leadership in related projects. ViRVIG is also aiming to respond to the needs of the industrial and public sectors resulting in advanced, problem-oriented solutions. ViRVIG research areas include Procedural Modelling, Geometry Processing, Visualisation and Modelling of Volume Data, Deformable Systems and Physically Based Animation, Virtual Reality, Advanced Interaction, and Collaborative Systems, Capture, Acquisition and Modelling Complex Geometric Models, Realistic and Interactive Rendering, Expressive Rendering and Computational Aesthetics, and Computational Geometry. For a comprehensive list of publications, please refer to ViRVIG's publication page [[ViR13](#)].



2. Facilities

ViRVIG Labs are located in the UdG Scientific Parc and in the UPC Barcelona Campus. Present facilities include several VR Systems: a 4-wall Cave, a PowerWall and several portable VR Systems. All VR Systems in ViRVIG Labs have been designed and assembled in the ViRVIG Labs. ViRVIG facilities also include haptic robots and laser scanners.

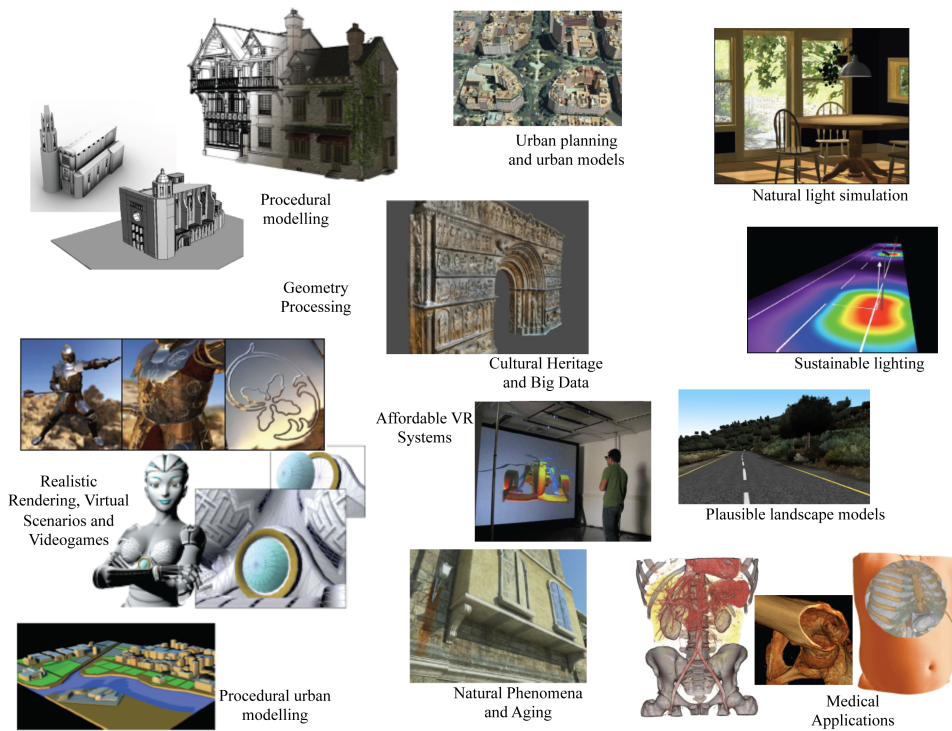
3. Staff

Head of the lab : Xavier Pueyo

Senior researchers : Prof. Carlos Andújar, Prof. Gonzalo Besuievsky, Dr. Carles Bosch, Dr. Pere Brunet, Prof. Antoni Chica, Prof. Narcís Coll, Prof. Marta Fairen, Dr. Marta Fort, Prof. Ignacio Martín, Prof. Isabel Navazo, Prof. Núria Pelechano, Prof. Xavier Pueyo, Prof. Antoni Sellarés, Prof. Gustavo A. Patow, Prof. Antoni Susín, Prof. Pere P. Vázquez, Prof. Alvar Vinacua.

4. Application Areas, Know-How and Collaborations

A key point in ViRVIG's mission is to keep close relations with Industry and Public Administration, both to target its



research program and to direct the results of its research back to these organizations.

ViRVIG research is being applied to real problems through competitive projects and industry agreements. Application areas include virtual inspection of prototypes in industrial and cultural heritage applications, volume expressive visualization for diagnose, management and visualization of huge models and big data in small devices, training and planning in medicine, modelling and simulation for urban planning and architecture, advanced inspection tools for museums and landscape inspection, computer games, design of lighting systems and illumination, and protein design. ViRVIG specific know-how in VR includes low-cost immersive systems, ad-hoc advanced 3D interfaces and design of specific, auto-calibrated multi-projector systems.



References

[ViR13] ViRVIG: Publication page, 2013. <http://www.virvig.eu/publications.php>. 1

